

REMARKS

Claims 1-2, 9-12 and 20-21 stand rejected under 35 U.S.C. 102(e) as being anticipated by Uchiike et al. (U.S. Patent No. 6,236,527). In response, Applicants amended independent claims 1 and 11 to clarify that the arm is released from contact with a wall in a parking area by the head feed operation, and the arm is pushed against the wall in the parking area as the unload operation is completed. Applicants respectfully traverse because the reference does not disclose (or suggest) a gradual change in the voice coil motor current at these locations.

Uchiike discloses in FIG. 4A a load operation that undergoes a sharp change in the voice coil motor current at the beginning of the load operation (i.e., P1). Uchiike further discloses in FIG. 4(b) an unload operation that undergoes a sharp change in the voice coil motor current at the end of the unloading operation (i.e., P2). That is, the profile of the voice coil motor current has a pulse current portion P1, and a velocity-control current portion C1 that varies continuously. By means of the pulse current portion P1, the actuator 3 overcomes static friction with a parking surface 4a of a ramp 6, and starts sliding in a load direction.

In FIG. 4(b) of Uchiike, the actuator 3 touches the ramp 6 at a time t0, and unloading ends at a time t1. The voice coil motor current profile has a continuously varying velocity-controlled current portion C2 and a pulse current portion P2. The actuator 3 slides over the inclined surface 6d, plateau 6c and inclined surface 6b of the ramp 6 by means of the velocity-control current portion C2, reaches the parking surface 6a, and is securely unloaded to the withdrawn position by means of the pulse current portion P2 (Col. 6, lns. 3-26).

Uchiike fails to disclose or suggest a driving current which drives an arm so as to undergo a gradual change in the driving current when the arm is released from contact with a wall in the parking area during loading, or when the arm is pushed against a wall in the parking area during unloading.

In contrast, claims 1 and 11 are amended to clarify the position of the arm during the head feed operation, and that the arm is pushed against the wall in the parking area as the unload operation is completed (see FIGs. 9-10 and 19-20). That is, as shown in FIG. 10B, for example, the voice coil motor current is controlled to change gradually during the load operation for at least the release operation which releases the arm 114 that is held in the unloaded state (see Applicants' specification page 14, lns. 18-28). Similarly, FIGs. 19-20 show the voice coil motor current during the unload operation the change in the voice coil motor current is gradual at the waveform portion (F), as shown in FIG. 20B (see Applicants' specification page 19, line 30 to page 20, line 27). Accordingly, the present invention can suppress a generation of mechanical noise during the load/unload operation, unlike Uchiike. For these reasons, withdrawal of the §102 rejection of claims 1-2, 9-12 and 20-21 is respectfully requested.

Claims 4-8 and 14-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiike in view of combinations of Ito (U.S. Patent No. 5,315,455), Huang et al. (U.S. Patent No. 6,583,964), Phan et al. (U.S. Patent No. 5760,992), and Koikumi et al. (U.S. Patent No. 5,982,570). Applicants respectfully traverse the rejection for the reasons recited above.

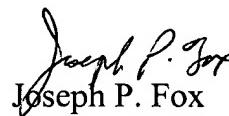
Since claims 4-8 and 14-19 ultimately depend upon claims 1 and 11, respectfully, they necessarily include all of the features of their associated independent claims plus other additional features. Thus, Applicants submit that the §103 rejection of claims 4-8 and 14-19 have also been overcome for the same reasons mentioned above to overcome the rejections of independent claims 1 and 11, and also because each of the cited references fails to overcome the deficiencies of Uchiike. Applicants respectfully request that the §103 rejections of claims 4-8 and 14-19 also be withdrawn.

For all of the foregoing reasons, Applicants submit that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

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